

REMARKS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1, 4 and 6 are pending. Claims 5 and 9 were previously canceled without prejudice. Claims 7 and 8 have been presently canceled without prejudice. Claims 1, 4 and 6 have been presently amended.

In the outstanding Office Action, Claim 4 was objected to. Claims 1, 4, and 8 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Satoh et al. (U.S. Pat. Appl. Publ. No. 2003/0048403) in view of Nishida et al. (U.S. Pat. No. 6,842,207) and further in view of Yi et al. (U.S. Pat. Appl. Publ. No. 2003/10104291). Claim 6 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Satoh et al., Nishida et al., and Yi et al. in view of Ochiai et al. (U.S. Pat. No. 6,768,531). Claims 1 and 7 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Satoh et al. in view of Nishida et al. and further in view of Yi et al..

Regarding the present claim amendments, Claim 1 corresponds to the embodiments shown in FIGS. 3, 7 and 8. The embodiment shown in FIG. 9 (corresponding to Claim 7) has been canceled. The first pixel in Claim 1 can be viewed as corresponding to the red pixel PXR of the embodiments, the second pixel can be viewed as corresponding to the green pixel PXG and the third pixel can be viewed as corresponding to the blue pixel PXB. The columnar spacer, as claimed, is disposed ***only on the third pixel*** with the smallest gap (i.e., the third gap). In other words, columnar spacers in the present invention are not disposed on the first pixel and the second pixel.

Regarding the rejection on the merits, Applicant submits that none of the references discloses a structure in which ***a columnar spacer*** is disposed ***only on a pixel with the smallest gap***, as presently claimed. For this reason alone, the present invention patentably

defines over the applied references, as M.P.E.P. § 2143 requires for a *prima facie* case of obviousness that the prior art reference (or references when combined) must teach or suggest *all the claim limitations*. [emphasis added]

Furthermore, Applicant submits that one object of the present invention is to solve a problem specific to the case where a columnar spacer is formed of a negative-type photosensitive resin material having light shield properties. See specification, page 16, line 12 to page 17, line 12, etc.

Satoh et al. have as an object to improve resistance to load and to reduce the cell gap across a liquid crystal display cell at low temperature. To achieve this object, a plurality of column-shaped spacers of different heights is necessarily required. Therefore, Satoh et al. teach away from the present invention in which a columnar spacer is disposed only on a pixel with the smallest gap.

M.P.E.P. § 2141.02, quoting case law, states that a prior art reference must be considered for its entirety, i.e., as a whole, including portions that lead away from the claimed invention. The Court in In re Gurley (CA FC) 31 USPQ2d 1130 stated that:

A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant. The degree of teaching away will of course depend on the particular facts; in general, a reference will teach away if it suggests that the line of development flowing from the reference's disclosure is unlikely to be productive of the result sought by the applicant.

In the present case, the teachings of multiple columnar spacers in Satoh et al. would lead one of ordinary skill in the art in a direction divergent from the path that was taken by the Applicant, and now claimed. Thus, combining Satoh et al. with the other applied references is improper. See M.P.E.P. § 2145 (X)(D)(2).

Furthermore, a modification of Satoh et al. to reduce the number of columnar spacers would render Satoh et al. unsatisfactory for its intended purpose of improving resistance to load ,and therefore be improper under M.P.E.P. § 2143.01 (V).

Hence, for these additional reasons, the present invention patentably defines over the applied references.

Furthermore, regarding Nishida et al., Nishida et al. disclose in FIG. 12d (the figure cited in the Office Action) an example of disposing a bead-like spacer 25 on a blue pixel. Nishida et al. disclose at col. 16, lines 63-67, that the “granular spacers 25” replace “the spacers of the color filter.” Hence, like Satoh et al., multiple spacers are taught in Nishida et al.. Indeed, Nishida et al. in teaching a bead-like spacer as opposed to a columnar spacer and in teaching multiple spacers also *teach away* from the claimed invention by leading one in a direction divergent from the claimed invention.

Moreover, the bead-like spacer (addressing a color granularity problem) does not address the same problem as the present invention. Thus, Applicant submits that one of ordinary skill in the art at the time of the invention would not have been motivated to combine and or replace any number of Nishida et al.’s bead-like spacers with Satoh et al.’s columnar spacers of different heights. Thus, deficiencies in Satoh et al. with regard to multiple columnar spacers, not a singular columnar spacer at the smallest gap, are not overcome by Nishida et al. Hence, for these additional reasons, the present invention patentably defines over the applied references.

The deficiencies of Satoh et al. and Nishida et al. with regard to multiple columnar spacers are not overcome by Yi et al. Yi et al. disclose disposing a black matrix and a spacer formed of photosensitive black material between pixels. Yi et al. is applied in the Office Action for their teaching of a negative-type photoresist. As such, Yi et al. fails to provide a

proper motivation to modify or combine the plural columnar spacers of Satoh et al. or the bead-like spacers of Yi et al.

Hence, for this additional reason, the present invention patentably defines over the applied references.

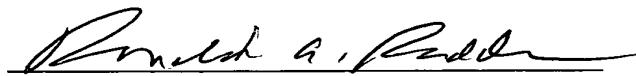
Finally, even if Yi et al.'s bead-like spacers were to be modified and then combined with Satoh et al.'s columnar spacers of different heights, the above-noted aspect of the present invention, that is, disposing a columnar spacer only on a pixel with the smallest gap, is not produced.

Hence, for all these reasons, Applicant respectfully submits that Claim 1 and the claims dependent therefrom patentably define over the art of record.

Consequently, in view of the foregoing discussion and present amendment, it is respectfully submitted that this application is in condition for allowance. An early and favorable action is therefore respectfully requested.

Respectfully submitted,

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